



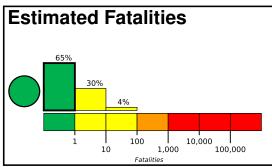


**PAGER** 

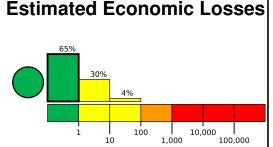
Version 2

**M 4.0, 4 km SE of Madison, Ohio** Origin Time: 2023-08-28 02:43:26 UTC (Sun 22:43:26 local) Location: 41.7428° N 81.0135° W Depth: 7.2 km

Created: 26 minutes, 34 seconds after earthquake



Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.



**Estimated Population Exposed to Earthquake Shaking** 

| ESTIMATED POPULATION<br>EXPOSURE (k=x1000) |                          | _*       | 19,046k | 184k  | 3k       | 0        | 0           | 0          | 0        | 0        |
|--|--------------------------|----------|---------|-------|----------|----------|-------------|------------|----------|----------|
| ESTIMATED MODIFIED MERCALLI INTENSITY      |                          | I        | II-III  | IV    | V        | VI       | VII         | VIII       | IX       | X+       |
| PERCEIVE                                   | SHAKING                  | Not felt | Weak    | Light | Moderate | Strong   | Very Strong | Severe     | Violent  | Extreme  |
| POTENTIAL<br>DAMAGE                        | Resistant<br>Structures  | None     | None    | None  | V. Light | Light    | Moderate    | Mod./Heavy | Heavy    | V. Heavy |
|  | Vulnerable<br>Structures | None     | None    | None  | Light    | Moderate | Mod./Heavy  | Heavy      | V. Heavy | V. Heavy |

<sup>\*</sup>Estimated exposure only includes population within the map area.

## Population Exposure

population per 1 sq. km from Landscan 5000

### **Structures** 10000

Overall, the population in this region resides in structures that are resistant to earthquake shaking, though vulnerable structures exist. The predominant vulnerable building types are unreinforced brick masonry and reinforced masonry construction.

# 82/.1°W 80.8°W Kitchener Norfolk County

ungstown

Wheeling

Cranberry Township

Pittsburgh

## **Historical Earthquakes**

|               |               | •    |               |                   |
|---------------|---------------|------|---------------|-------------------|
| Date<br>(UTC) | Dist.<br>(km) | Mag. | Max<br>MMI(#) | Shaking<br>Deaths |
| 1986-07-12    | 311           | 4.5  | V(21k)        | _                 |
| 1998-09-25    | 58            | 4.5  | V(24k)        | _                 |
| 1986-01-31    | 19            | 5.0  | V(165k)       | 0                 |

## **Selected City Exposure**

| MMI | City               | Population |
|-----|--------------------|------------|
| IV  | Madison            | 3k         |
| IV  | North Madison      | 9k         |
| IV  | Geneva             | 6k         |
| IV  | Perry              | 2k         |
| IV  | Geneva-on-the-Lake | 1k         |
| IV  | Roaming Shores     | 2k         |
| Ш   | Cleveland          | 397k       |
| Ш   | London             | 347k       |
| II  | Detroit            | 714k       |
| II  | Hamilton           | 520k       |
| II  | Columbus           | 787k       |

bold cities appear on map.

(k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.